

Permitting Decisions - Variation

Decision document recording our decision-making process

The Permit number is: EPR/FP3139FN
The Operator is: Essar Oil (UK) Limited
The Installation is: Stanlow Manufacturing Complex
This Variation Notice number is: EPR/FP3139FN/V012

Consultation commenced on: 13/10/2022
Consultation ended on: 10/11/2022

What this document is about

This is a decision document, which accompanies a Consolidated Variation Notice.

It explains how we have considered the Applicant's Application, and why we have included the specific conditions in the permit we issuing to the Applicant. It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. Unless the document explains otherwise, we have accepted the Applicant's proposals.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future. A lot of technical terms and acronyms are inevitable in a document of this nature: we provide a glossary of acronyms near the front of the document, for ease of reference.

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Responses from organisations listed in the consultation section**Error! Bookmark not defined.**

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Representations from individual members of the public **Error!**
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Glossary of acronyms used in this document

BAT	Best Available Technique(s)
BAT-AEL	BAT Associated Emission Level
BATc	BAT conclusion
BAU	Business as Usual
BREF	Best available techniques reference document
CBA	Cost Benefit Analysis
DD	Decision document
Derogation	from BAT AELs stated in BAT Conclusions under specific circumstances as detailed under Article 15(4) of IED where an assessment shows that the achievement of emission levels associated with the best available techniques as described in BAT conclusions would lead to disproportionately higher costs
DNEL	Derived No-Effect Levels
EAL	Environmental Assessment Level
ELV	Emission Limit Value derived under BAT or an emission limit value set out in IED
EPR	Environmental Permitting (England and Wales) Regulations 2016 (SI 2016 No. 1154)
EQS	Environmental Quality Standard
IED	Industrial Emissions Directive (2010/75/EU)
NMVOc	Non-methane VOC
NPV	Net Present Value
PC	Process Contribution
PEC	Predicted Environmental Concentration
VOC	Volatile Organic Compounds
VRU	Vapour Recovery Unit
WACC	Weighted Average Cost of Capital

1 Our decision

We have decided to issue the Consolidated Variation Notice to the Operator. This will allow it to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice.

The scope of this variation application covers only a request for a derogation from the requirements of BAT Conclusion 12, as identified in the refining of mineral oil and gas BAT Conclusions document. As part of our decision we have decided to grant the derogation. The way we assessed the Operator's request for derogation and how we subsequently arrived at our conclusion is recorded in this document.

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the varied permit will ensure that a high level of protection is provided for the environment and human health.

The Consolidated Variation Notice contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we have considered the techniques identified by the operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate.

2 How we reached our decision

2.1 Receipt of Application

The Application was duly made on 10/03/2021. This means we considered it was in the correct form and contained sufficient information for us to begin our determination but not that it necessarily contained all the information we would need to complete that determination: see below.

2.2 Commercial confidentiality

The Applicant claimed that certain information was commercially confidential and should be withheld from the public register. We considered this request and determined that the information claimed as confidential was industrial information commercially sensitive in relation to the operator's commercial strategy and critical in their competitiveness.

We have determined that the following information included in the application and subsequent responses to information requests is confidential:

- Cost impact of transferring effluent off-site by road tanker - this is commercially sensitive information in relation to prices for waste disposal.
- Details of the project progress, work outstanding and project plan to close the gap to BAT. This data is recognized as commercially sensitive by Essar as contract work is still ongoing and therefore there is potential for cost escalation by the contracting parties.

We decided that the confidentiality of the information in the scope of the applicant's claim is provided by law to protect a legitimate economic interest and, taking account all circumstances, the public interest in maintaining the confidentiality outweighs the public interest in including it in the public register, in accordance with the criteria in Regulation 51(c) (i), (ii) and (iii) of EPR.

The Applicant provided edited versions of the documents containing confidential information to ensure that information included in the Public Register allows public understanding of the scope of the application, adequate technical inputs and details, full understanding of environmental risk assessment, results and outcomes of cost benefit analyses. All the information related to emissions has been included in the Public Register and the information withheld has been kept to a minimum.

Apart from the issues and information just described, we have not received any information in relation to the Application that appears to be confidential in relation to any party.

2.3 Requests for Further Information

There were no requests for further information.

2.4 How we considered the responses from public consultation

Having carefully considered the Application and all other relevant information, we put our draft decision before the public and other interested parties in the form of a draft Consolidated Variation Notice, together with a draft version of this explanatory document.

As a result of this stage in the process, the public was provided with all the information that is relevant to our determination and gave the public the opportunity to make comments.

We consulted on our draft decision from 13/10/2022 to 10/11/2022. We didn't receive any comments or responses to this consultation.

3 The legal framework

The Consolidated Variation Notice is being issued under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that the Consolidated Variation Notice will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

Article 15(4)

The IED enables a competent authority to allow derogations from BAT AELs stated in BAT Conclusions under specific circumstances as detailed under Article 15(4):

By way of derogation from paragraph 3, and without prejudice to Article 18, the competent authority may, in specific cases, set less strict emission limit values. Such a derogation may apply only where an assessment shows that the achievement of emission levels associated with the best available techniques as described in BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to:

(a) the geographical location or the local environmental conditions of the installation concerned; or

(b) the technical characteristics of the installation concerned.

Cost Benefit Analysis

If a derogation is potentially applicable then Cost Benefit Analysis (CBA) is undertaken. The CBA allows calculation to indicate whether the costs of compliance are greater or less than the environmental benefits.

It essentially groups all the costs on one side, with all the benefits, as far as possible, on the other side. It then includes the effect of time on the value of those costs and benefits in order to produce a Net Present Value (NPV).

This gives an indication of whether those costs are disproportionate or not, but there are many sensitivities in the analysis and many aspects of the environment that cannot yet be monetised so the actual decision on disproportionality rests with the Regulator.

Where the NPV is positive, this indicates that the cost of compliance with the BAT AEL(s) does not outweigh the environmental benefits.

Where the NPV is negative, this indicates that the costs of compliance with the BAT AEL(s) outweigh the environmental benefits.

4 Overview of the site and installation

Stanlow Manufacturing Complex (installation) is situated south of the Mersey estuary near Ellesmere Port. The Mersey Estuary is identified as a Special Protection Area (SPA) and Ramsar site.

The installation processes crude oil in a refinery which includes a fluid catalytic cracker, alkylation unit, platformer and hydrodesulphurisation plant.

The refinery is integrated with adjoining chemicals plants and process waste is incinerated at the installation. The refinery also operates large combustion plant (LCP).

Crude oil is received from a separate EPR installation at the Tranmere Oil Terminal on the Mersey and is transferred by pipeline to storage at the installation. Finished products are exported by pipeline then transported either by road tanker from the loading terminal or by water via the Manchester Ship Canal.

The site effluent is currently treated by a combination of physico-chemical and biological treatment processes on-site and off-site. The site drainage and effluent systems have developed over this time. Due to the age of the site, there is little segregation of rainwater and effluents, meaning that large volumes of rainwater pass through the effluent treatment plants. There are five main effluent discharges on site:

The treated effluent is discharged through four main outfalls and one route to sewer:

W1 – SDAF outfall to Thornton Brook

W2 – NDAF outfall to River Gowy

W3 – N38 Outfall to Manchester Ship Canal

W4 – N19 Outfall

S1 – U7800 discharge to United Utilities

There are 16 outfalls from site (W1-W10, and W12-W17). These discharge to Thornton Brook, River Gowy, Gale Brook, Mill Brook and the Manchester Ship Canal. These all eventually flow to the Mersey Estuary.

There are four main effluent treatment units on site:

1. South Dissolved Air Flotation (SDAF) unit – treats refinery effluents drainage (up to 275 m³/h) from the south site.
2. North Dissolved Air Flotation (NDAF) unit – treats drainage (up to 145 m³/h) from the north site.
3. Process Dissolved Air Flotation (PDAF) unit – treats refinery process effluents (up to 156 m³/h) – discharges through W3 – N38
4. U7800 – receives and treats effluents from the ex-chemicals operational areas, the Sulphur Recovery Areas and, in emergency upset, the third party operator Argent Energy Ltd and discharges through S1 to United Utilities for biological treatment.

These units have developed over time, for example with the addition of biological treatment at the SDAF and NDAF locations.

The existing effluent treatment systems are not adequate to meet all the BAT AELs and the requirements of the BAT Conclusions. The operator has requested additional time to continue implementation of an existing effluent project which is designed to collect their process effluent streams from around the installation (including some not covered by this BREF) and send the combined effluent off-site, by sewer, to Ellesmere Port WwTW for additional treatment. The discharge from that works is covered by a separate permit held by United Utilities (UU).

5 Key Issues

The key issues arising during the determination of this variation application are the review and assessment of the derogation application from meeting BAT conclusion 12 of Best Available Techniques Conclusions Document for the Refining of Mineral Oil and Gas (2014/7/738/EU of 28/10/2014).

We therefore describe how we determined these issues in more detail in the following sections of this document.

5.1 Description of the derogation request

5.1.1 BAT Conclusion 12

In order to reduce the emission load of pollutants in the waste water discharge to the receiving water body, BAT is to remove insoluble and soluble polluting substances by using all of the techniques given below.

Technique	Description	Applicability
i. Removal of insoluble	See Section 1.21.2, Annex 1	Generally applicable

substances by recovering oil		
ii. Removal of insoluble substances by recovering suspended solids and dispersed oil	See Section 1.21.2, Annex 1	Generally applicable
iii. Removal of insoluble substances including biological treatment and clarification.	See Section 1.21.2, Annex 1	Generally applicable

BAT-associated emission levels are (Table 3 of BAT Conclusion document):

Parameter	Unit	BAT – AEL (yearly average)	Monitoring ⁽²⁾ frequency and analytical method (standard)
Hydrocarbon oil index (HOI)	mg/l	0.1 – 2.5	Daily EN 9377-2
Total suspended solids (TSS)	mg/l	5 - 25	Daily
Chemical oxygen demand (COD) (4)	mg/l	30 - 125	Daily
BOD 5	mg/l	No BAT - AEL	Weekly
Total nitrogen (5) expressed as N	mg/l	1 – 25 (6)	Daily
Lead, expressed as Pb	mg/l	0.005 – 0.030	Quarterly
Cadmium expressed as Cd	mg/l	0.002 – 0.008	Quarterly
Nickel, expressed as Ni	mg/l	0.005 – 0.100	Quarterly
Mercury, expressed as Hg	mg/l	0.0001 – 0.001	Quarterly
Vanadium	mg/l	No BAT - AEL	Quarterly
Phenol index	mg/l	No BAT - AEL	Monthly EN 14402
Benzene, toluene, ethyl benzene, xylene (BTEX)	mg/l	Benzene 0.001 – 0.050 No BAT – AEL for T, E, X	Monthly

(1) Not all parameters and sampling frequencies are applicable to effluent from gas refining sites
(2) Refers to a flow-proportional composite sample taken over period of 24 hours, or provided that sufficient flow stability is demonstrated, a time-proportional sample
(3) Moving from the current method to EN 9377-2 may require an adaptation period
(4) Where on-site correlation is available, COD may be replaced by TOC. The correlation between COD and TOC should be elaborated on a case-by-case basis. TOC monitoring would be the preferred option because it does not rely on the use of very toxic compounds
(5) Where total-nitrogen is the sum of the total Kjeldahl nitrogen (TKN), nitrates and nitrites
(6) When nitrification/denitrification is used, levels below 15 mg/l can be achieved

5.1.2 Background and Operator's proposal

The Operator was not able to meet all the BAT AELs as defined in BAT Conclusion 12 and Table 3 of the BAT Conclusions by the BAT Conclusions implementation date of 28/10/2018. In 2018 we granted a time limited derogation to the Operator (variation No. EPR/FP3139FN/V009), valid until 30/09/2021, but the Operator failed to meet this deadline and have applied for a further derogation.

The Operator supplied the following explanation.

Essar's Stanlow Refinery is unique because the age and configuration of the refinery's effluent management systems makes it more technically difficult and costly to comply. The reasons for this are described later in this document, but include the following:

- The existing Rotating Biological Contactors are not capable of meeting the BAT AELs and in some places there is no biological treatment of effluent streams. Activated sludge treatment of a blended effluent stream is required but that technique does not work effectively with the very variable strength effluent streams found on site at Stanlow.
- Essar have proposed that the best technical and environmental solution is for off-site treatment at a third party Waste Water Treatment Works (WWTW). This will still require significant on site works which, at the point of submitting this variation application, was expected to be completed in April 2022.
- Allowing nine months for commissioning of the third party facilities gives an overall project completion date of 31 December 2022.
- The third party's WWTW has committed to treating this effluent, with their project anticipated to be complete by 31 March 2022. Details of the additional treatment are provided below.
- The cost of off-site disposal by road tanker is disproportionately expensive.

Essar have made significant progress on design and installation of the project, however due to the delays associated with COVID-19 the Essar construction works were not completed until 30 April 2022. The United Utilities facilities require 8 months for commissioning which gives a project completion date of 31 December 2022.

Update on progress

Essar provided an update on the progress of the project in document "Site Effluent Project – IC41" received on 19/07/2022. The ongoing work has made significant progress and is at the commissioning stage for the majority of the key elements of the project.

5.1.3 Emission Limit Values (ELVs)

The derogation request includes a proposed ELV and a timescale. The Operator has proposed ELVs compared to the BAT AEL values as set out below. After this date the Operator has proposed to send the combined effluent off-site, by sewer, to Ellesmere Port WWTW for additional treatment allowing compliance with the BATc's

The current position, the BAT-AEL values and the Operator's proposed position is set out below.

5.1.4 Current ELVs / emission levels

The basis for not setting ELVs during the time-limited derogation period is that the emissions are not suitably abated at the present, therefore there are no installed technological means that would allow limiting, reducing or controlling these emissions.

Parameter mg/l	BAT AEL mg/l (yearly average)	W1		W2		W3		W4	
		Current mg/l	Proposed mg/l	Current mg/l	Proposed mg/l	Current mg/l	Proposed mg/l	Current mg/l	Proposed mg/l
Hydrocarbon oil index (HOI)	0.1 – 2.5	10	10	10	10	10	10	10	10
Total suspended solids (TSS)	5 – 25	-	-	45	45	45	45	-	-
Chemical oxygen demand (COD)	30 – 125	-	-	250	250	-	-	-	-
Total nitrogen expressed as N	1 – 25	-	-	-	-	-	-	No limit	No limit
Lead expressed as Pb	0.005 – 0.03	-	-	-	-	-	-	No limit	No limit
Cadmium expressed as Cd	0.002 – 0.008	-	-	-	-	-	-	No limit	No limit
Nickel expressed as Ni	0.005 – 0.1	-	-	-	-	-	-	No limit	No limit
Mercury expressed as Hg	0.0001 – 0.001	-	-	-	-	-	-	No limit	No limit
Benzene	0.001 – 0.05	-	-	-	-	No limit	No limit	-	-

5.1.5 BAT AELs and proposed ELVs

The BAT AELs are set out in Table 3 of the BAT Conclusion, see above. Since there is no suitable abatement of emissions at the present, the Operator proposed that no changes to ELVs are specified during the time-limited derogation period, based on the same rationale described above for the current ELVs and emission levels.

5.1.6 Derogation criteria

The derogation request is based on technical characteristics. Details of the Operator’s proposal for the derogation criteria and our review are provided in the following table:

Derogation criteria assessment		
Criteria detail	Operator proposal – linked to DEFRA IED EPR guidance	Environment Agency view
Technical – plant configuration	<p>The Operator has linked the proposed derogation grounds to the interpretation provided in the DEFRA guidance note 'Industrial emissions directive Guidance on Part A installations':</p> <p><i>‘Technical characteristics:</i></p> <ul style="list-style-type: none"> • <i>The general investment cycle for a particular type of installation</i> • <i>The configuration of the plant on a given site, making it more difficult and costly to comply</i> • <i>The intended remaining operational lifetime of the installation as a whole or of the part of it giving rise to the emission of the pollutant(s), where the operator is prepared to commit to a timetable for closure.’</i> <p>The operator claims Essar’s Stanlow Refinery is unique because the age and configuration of the refinery’s effluent management systems makes it technically difficult and more costly to comply.</p> <p>There is little segregation of uncontaminated streams (e.g. rainwater). The variations in flow and concentration of the effluents (due to rainfall) make the effluent more difficult to treat. This is recognised in BAT 11, which includes segregation of non-contaminated water streams (e.g. rain water), but recognises this is “Generally applicable for new units. For existing units, applicability may require a complete rebuilding of the unit or the installation.”</p> 	<p>We consider that the technical configuration of the plant is likely to make it more difficult and costly to comply with BAT Conclusion 12 and the associated emission levels (BAT-AELs).</p> <p>We have therefore decided to take forward the technical criterion as the basis of this derogation request.</p> <p>The Environment Agency had previously accepted these derogation grounds based on the technical characteristics of the installation, as part of the derogation granted to the operator on 26/09/2018 (variation No. EPR/FP3139FN/V009).</p>

	<p>The construction of this project was scheduled for completion by 31/12/2020 – with commissioning due to take place from 01/01/2021 – 30/09/2021.</p> <p>Due to the effects of the COVID-19 pandemic, the local environmental conditions at EOUK are such that the construction works required to collect and re-route effluents from across the Essar site to the Waste water Treatment Works had to be paused, and have been delayed by 15 months.</p>	
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5.1.7 Options review

The Operator has addressed all the options for achieving the BAT AEL. The Operator has referred to the BAT Conclusions and addressed all reasonable techniques for achieving the BAT AEL. Where an option is considered appropriate for cost benefit analysis (CBA) it has been identified as such and considered further. Where we have considered an option appropriate for cost benefit analysis (CBA), this has been identified as such and considered further.

The main options considered by the Operator are summarised below:

Review of all possible techniques to achieve BAT AEL (or compliance)				
Option / techniques considered		Technique / option description	Applicability	Timescale for completion
0.	Business as Usual (BAU)	No change to the current operation for unlimited time.	<p>This option would be subject to accepting emissions which are not fully abated and granting an unlimited time derogation from compliance with the BAT-AELs.</p> <p>We consider this option is not applicable because it would not deliver compliance with BAT Conclusion 12 and it would be contrary to the principle of non-backsliding on emissions, compared to the previous derogation granted to the installation on 26/09/2018 (variation No. EPR/FP3139FN/V009).</p> <p>No CBA provided for this option.</p>	Not applicable

Review of all possible techniques to achieve BAT AEL (or compliance)				
Option / techniques considered	Technique / option description	Applicability	Timescale for completion	
1.	<p>Proposed derogation - treatment unit for effluent discharge to United Utilities</p>	<p>Collecting process effluent streams from around the installation (including some not covered by this BREF) and sending the combined effluent off-site, by sewer, to Ellesmere Port WwTW for additional treatment.</p> <p>In order for United Utilities (UU) to treat these effluents, they have implemented a capital project to dramatically increase the secondary and tertiary treatment capacity at the site. UU's solution includes an increase in the Activated Sludge Plant volume from 9,855 m³ to 39,600 m³, which accommodates both the increase in flows/loads and the requirement of a longer retention time to ensure treatment to the required quality standards.</p> <p>Following completion of construction at both Stanlow and the Ellesmere Port Waste Water treatment works there will be a commissioning period where Stanlow effluents are routed to UU in a phased format in order to tune the operation of the Waste Water Treatment Works to the Stanlow effluent streams. UU have advised that this must take place over both summer and winter periods and will take approximately 8 months.</p>	<p>Applicable: this option would deliver compliance.</p> <p>This is the option proposed by the Operator.</p> <p>CBA provided.</p>	<p>Compliance achieved on 31/12/2022 (proposed derogation date)</p>
2.	BAT AEL – tankering off waste	Tankering effluent off-site to a licenced waste treatment site.	<p>Compliance achieved in 2022 (on determination of the permit variation).</p> <p>Immediate compliance – No derogation required.</p>	

Review of all possible techniques to achieve BAT AEL (or compliance)				
Option / techniques considered		Technique / option description	Applicability	Timescale for completion
3.	Other options	The previous derogation considered other options, but these have not been considered further in this derogation as the finalised option from the previous derogation is under construction. They have proposed to implement an effluent project which is designed to collect their process effluent streams from around the installation (including some not covered by this BREF) and send the combined effluent off-site, by sewer, to Ellesmere Port WWTW for additional treatment.	N/A	N/A

We consider that the Operator has assessed an adequate range of technically viable options to achieve compliance with BAT conclusion 12 and the associated BAT-AELs.

5.2 Demonstrating disproportionality of costs and benefits

We have audited the Cost Benefit Analysis (CBA) submitted by the Operator and we consider that the Operator has satisfactorily demonstrated that the stated derogation criterion would result in disproportionate costs for achieving the BAT AEL compared to the environmental benefits.

5.2.1 Cost Benefit Analysis (CBA)

The CBA has been reviewed and considered to support the derogation request. Key points from the CBA are summarised below.

Audit of CBA tool

The CBA has been reviewed and considered to support the derogation request. The version of the CBA tool submitted was 6.17. Therefore, the data was transferred to the latest version of the tool, 6.23. This newer version of the CBA tool is taken as the basis for the determination of the variation application. In the CBA tool, there was no data given for emissions to water but these are provided separately. Key points from the CBA are summarised below.

The weighted average cost of capital (WACC) is consistent with what we would expect for the sector. The lifetime of the technology and the appraisal period are based on two years to install and an installation lifetime of 20 years for the proposed derogation. The lifetime of the technology and the appraisal period are based on the standard lifetime of new or replaced equipment in this industrial sector. The BAT-AEL option has only operational costs rather than installation costs. Therefore, this has been modelled as one year to complete installation with a lifetime of one year as it will be replaced by the proposed derogation in 2022.

We are satisfied with the Operator's approach and justification for the data input for each of the options.

Results of CBA

The costs have been compared using the Environment Agency CBA tool V 6.23, which is based on HM Treasury's Green Book guidance. The results are summarised in terms of Net Present Value (NPV). The costs of meeting the

BAT AEL outweigh the monetised benefits in comparison to the proposed derogation (i.e. NPV < 0).

Option	1. Proposed derogation	2. BAT AEL
Central (£millions)	0.00	-1712

BAT AEL option: The CBA using central assumptions shows a negative NPV for the BAT AEL of £1,712 million and therefore the cost of compliance is disproportionate compared to the environmental benefit achieved.

Other sensitivity analysis and manual sensitivity checks

As part of our review, we carried out a number sensitivity checks around the data inputs.

Given the magnitude of the disproportionate costs of the BAT-AEL option, limited manual sensitivity analysis was conducted. For example, operational costs would need to be assumed to be almost costless before a positive NPV is achieved.

We are satisfied that the cost-benefit analysis is based on conservative assumptions and that the results of the sensitivity checks do not change the overall outcome of the assessments.

Summary of the CBA

We consider that the operator has provided a credible argument that the increased costs linked to the technical characteristics and local environmental conditions are disproportionate for achieving the BAT AEL. Only one option was reviewed along with the proposed option, and this was identified as technically viable.

This approach was used because contractual work by United Utilities is already in the process of building a biotreater that forms the proposed option. The option was taken forward for Cost Benefit Analysis (CBA), was

adequately described in the CBA and the cost of the BAT AEL option was confirmed as disproportionate compared to the environmental benefits.

The Cost Benefit Analysis using central assumptions shows a negative NPV for the BAT AEL of £1.7 billion and therefore the cost of compliance is disproportionate compared to the environmental benefit achieved.

5.3 Environmental risk assessment

We are satisfied that the allowing the proposed derogation will not cause any significant pollution or prevent a high level of protection of the environment as a whole to be achieved.

The risks to the environment have not changed following the previous derogation.

An H1 assessment was produced for the site in 2017 by AECOM. This included an assessment of current emissions as well as an assessment of the impact of the emissions following completion of the project to re-route the effluent to meet BAT AEL (post-2022). This assessment has been reviewed by the Environment Agency who provided a number of comments and suggested improvements to the process as used by Essar and AECOM in the 2017 assessment.

The H1 assessment is currently under review and will be updated in order to fully satisfy the requirements of EPR/FP3139 IC38. The detail of the current H1 assessment is shown below.

The H1 assessment identified some substances that do not pass the screening tests. For estuarine discharges (W2, W4), the substances that do not pass the screening criteria (test 1-4) are given below. Only substances for which BAT-AELs derogations are sought are shown.

Substance	Test 3 (AA-EQS) Pass/fail	Test 4a (MAC-EQS) Pass/Fail	MAC-EQS Pass/fail
Benzene	Fail (by 9%)	Pass	Pass

The table shows that benzene exceeds only one of the screening criteria. Benzene fails the test 3 screening criteria by <10%. The H1 assessment states that:

“It is therefore considered that it is unlikely that a significant impact will occur as a result of these releases, especially as the River Gowy flows into the Mersey Estuary, at a point which is only approximately 800m from the point where the Gowy flows off the Essar site, it is considered that the dilution of the River Mersey will considerably reduce the impacts of the releases from the site.”

For freshwater discharges to Thornton Brook (W1, S1), there are no substances for which BAT-AEL derogations are sought which do not pass the screening criteria.

For freshwater discharges to Manchester Ship Canal (W3), the substances that do not pass the screening criteria (test 1-4) are given below. Only substances for which BAT-AELs derogations are sought are shown.

Substance	Test 3 (AA-EQS) Pass/fail	Test 4a (MAC-EQS) Pass/Fail	MAC-EQS Pass/fail
Benzene	Fail	Fail	Fail

It should be noted that the operator currently discharges at these levels and are not aware of any adverse environmental impact.

From 31 December 2022 there will normally be no discharge from W1 and W2. The H1 assessment currently being updated will include water impact screening for W3, W4 and S1.

A screening assessment for S1 will be included in the updated H1 assessment. It is understood that United Utilities is in the process of carrying out its own assessment of the potential future impacts on the receiving waters.

The requirements of improvement condition 38 will remain in place until we are satisfied that the impact assessment is appropriate in terms of the inputs, the range of substances and the general approach/methodology. This will require Essar to resubmit their assessment based on our detailed comments.

We agree with the overall conclusion that for current releases W1, W2, W3, W4 and S1 and the future release S1 a number of chemical species cannot be screened out as insignificant. At this stage however we cannot be certain about the level of significance and the full range of species to which this applies.

Given the conclusions of the previous assessment which led to granting the first derogation and taking into consideration the short time period of allowing this proposed second derogation, we consider that the proposal will not cause any significant pollution.

5.4 Permit Conditions

No additional permit conditions have been added.

6 Decision considerations

6.1 Confidential information

A claim for commercial or industrial confidentiality has been made. We have accepted the claim for confidentiality. Refer to section 2.2. The decision was taken in accordance with our guidance on confidentiality.

6.2 Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on confidentiality.

6.3 Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

Consultation is relevant for derogations and we have consulted on our 'minded to' (draft) decision. The consultation was publicised on the GOV.UK website. We consulted on our draft decision from 13/10/2022 to 10/11/2022. We didn't receive any comments or responses to this consultation.

6.4 Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have previously assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process. The application does not entail any material changes, or increased risk. Based on the source/pathway/receptor mechanisms entailed by the derogated operations and the pollutants emitted, we consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England. The decision was taken in accordance with our guidance.

6.5 Environmental risk

We have reviewed the operator's assessment of the environmental risk from the operations in the scope of this variation application. The operator's risk assessment is satisfactory.

The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment or similar methodology supplied by the operator, or advised by a statutory consultee, and reviewed by ourselves, the emissions associated with the proposed derogation will not cause any significant pollution or prevent a high level of protection of the environment as a whole to be achieved. Refer to section 5.3 for further details.

6.6 Operating techniques

We have reviewed the techniques used by the operator, as relevant to the scope of this variation application, and compared these with the refining of mineral oil and gas BAT Conclusions document. This variation permits a derogation from BAT conclusion 12 and the relevant associated BAT-AELs granted in accordance with Article 15(4) of IED and our guidance.

6.7 Updating permit conditions during consolidation

We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.

6.8 Use of conditions other than those from the template

Based on the information in the application, we consider that we do not need to include conditions other than those in our permit template:

6.9 Improvement programme

We have updated the following permit conditions to those in the current generic permit template as part of the permit consolidation:

- Table S1.3 Improvement programme requirements, IC38, IC41 and IC54 updated.

6.10 Emission limits

No emission limits have been added, amended or deleted as a result of this variation.

6.11 Previous performance

The Operator failed to comply with the timetable proposed by them in 2018 to achieve compliance with BAT conclusion 12. However, we have taken into account the justification provided by the Operator, which is explained in section 5.1.2, and, on balance, we have decided to grant the variation to the permit.

6.12 Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit variation.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

7 Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public, and the way in which we have considered these in the determination process.

No responses received.